

Notice of Allowability

Application No.

10/651,695

Examiner

Rip A. Lee

Applicant(s)

ZANZIG ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 14, 2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Henry C. Young, Jr. on July 12, 2005.

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Claim 1, line 2 delete "based upon 100 parts by weight of elastomer (phr)"

Page 3

Claim 1, line 3 replace "exclusive" with "exclusion"

Claim 2, line 2 replace "1,3-butadiene" with "1,4-polybutadiene"

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 1-20 are allowed over the closest references, Zimmer *et al.* (U.S. 6,090,880) and Weydert *et al.* (U.S. 6,889,737).

The present invention is drawn to a tire having at least one component comprised of: (A) 100 phr of elastomer, (B) 35-100 phr of particulate reinforcement comprised of (1) 35-85 phr of aggregates of precipitated silica and (2) 0-15 phr of carbon black, and (C) a *bis*(triethoxysilylpropyl)polysulfide coupling agent having an average of from 2 to 2.5 sulfur atoms in the polysulfidic bridge and exclusive of *bis*(trialkoxysilylpropyl)polysulfide having an average connecting sulfur atoms greater than 3 in the polysulfidic bridge. Component (A) is comprised of (1) 30-70 phr of styrene/butadiene elastomer composite, which is a polymodal composite of 35-55 wt % of styrene/butadiene copolymer rubber ($M_n = 200,000$ to $300,000$) and 35-65 wt % of functional styrene/butadiene copolymer rubber ($M_n = 200,000$ to $300,000$) which contains at least one silanol/siloxy group so as to provide a silicon atom between at least two elastomer segments thereof (see claim for complete details) and (2) at least 30 phr of *cis*-1,4-polybutadiene, and (3) 0-15 phr of at least one additional elastomer.

Zimmer *et al.* teaches a tire tread comprised of (A) 100 pw of diene elastomer, (B) 30-110 phr of reinforcing filler, and (C) silica coupling agent. Component (A) is comprised of 50-80 phr of at least one Si or Sn coupled/capped elastomeric copolymer of styrene/ α -methylstyrene with butadiene/isoprene and 20-50 phr of at least one elastomeric copolymer of styrene/ α -methylstyrene with butadiene/isoprene. The reference does not teach a composition containing the at least 30 phr of *cis*-1,4-polybutadiene component.

Weydert *et al.* discloses a formulation comprised of (A) (1) 70 phr of T596 (JSR Corporation) and (2) 30 phr of polybutadiene, (B) 75 phr of silica, and (C) silane disulfide coupling agent, 50 wt % on carbon black carrier. The T596 styrene/butadiene rubber is the trade name of the polymer described as (A) (1) of the instant claims. Thus, the prior art discloses the claimed invention. Although Weydert *et al.* was published during prosecution of this

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application, the patent does not qualify as prior art since it was filed after the filing date of the current application.

The contents of patents relevant to the subject matter of the instant invention have been discussed in the previous office action, and they will not be presented here. These include: Labauze (U.S. 6,071,995), Hogan *et al.* (U.S. 2003/0078335), Nakamura (JP 2001-98115), and Cho (KR 2001-17712).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Terminal Disclaimer

The terminal disclaimer filed on April 14, 2005, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/628,679 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Prior Art

The prior art made of record but not relied upon is considered pertinent to the Applicant's disclosure. The accompanying PTO-892 cites new references which contain subject matter related to silicon coupled elastomers.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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July 15, 2005



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